

Cluster Management Configuration Commands

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Chapter 1 Cluster Management Configuration Commands

1.1 Cluster Management Configuration Commands

Cluster management configuration commands include:

- cluster address-pool
- cluster mode
- cluster commander-address
- cluster member
- cluster discovery hop-count
- cluster discovery mode
- cluster hellotime
- cluster holdtime
- cluster management-vlan
- show cluster
- show cluster candidates
- show cluster member
- show cluster topo
- show cluster address-pool

1.1.1 cluster address-pool

Syntax

cluster address-pool *A.B.C.D mask*

no cluster address-pool

Parameters

Parameters	Description
------------	-------------

A.B.C.D	Stands for the network segment to which theIPaddress pool belongs. Value range: N/A
mask	Stands for the mask of the network segment of theIPaddress pool. Value range: N/A

Default Value

The default network segment is 192.166.0.0/255.255.0.0.

Command Mode

Global configuration mode

Usage Guidelines

This command is used to configure the internal IP address of cluster management. After the internal IP address is used, the services are not opened to the outsider users. When the cluster feature has not been enabled on the device, this command can be configured repeatedly, only the last configuration is valid. The command can only be configured on the commander OLT.

Address number in the address pool should be greater than the number of cluster member.

Example

The following example sets 192.167.0.0/255.255.0.0 as the cluster address pool:

```
switch_config#cluster address-pool 192.167.0.0 255.255.0.0
```

1.1.2 cluster mode

Syntax

To configure the role that a switch plays in the cluster, use the cluster mode member command. To return to the default setting, use the no form of this command.

cluster mode { member | commander cluster-name }

no cluster mode

Parameters

Parameters	Description
<i>cluster-name</i>	cluster name Value range: N/A

Default Value

no cluster mode

The OLT disabling the cluster function works neither on the candidate member nor the commander OLT.

Command mode

Global configuration mode

Usage Guidelines:

cluster mode member configures OLT to cluster candidate member;

cluster mode commander cluster-name configures OLT to cluster command switch;

The no cluster mode should be operated when switching between candidate member and command OLT.

Command Mode

Global configuration mode

Example

The following command configures OLT to cluster candidate member:

```
Switch_config #cluster mode member
```

The following command configures switch to cluster command switch:

```
Switch_config #cluster mode commander campus
```

1.1.3 cluster commander-address

Syntax

cluster commander-address *H.H.H* **name** *name*

no cluster commander-address

Parameters

Parameters	Description
<i>H.H.H</i>	MACaddress of the server.
<i>name</i>	Name of the cluster. Valid value range is from 1 to 31 characters.

Default Value

None

Command Mode

Global configuration mode

Usage Guidelines:

You do not need to enter this command explicitly. When you add the device on the server to the cluster group, the packets forwarded by the server carry with these information. When the device receives, the command will be added to the configuration of show running, so that it can be automatically identified when starts up next time. The no command is used to remove the device from the cluster. To remove the member OLT from the cluster, run **no cluster member id** on the commander OLT, rather than this command. The command cannot be configured repeatedly.

Example

The following information is a portion of output of the show running-config command on a cluster member OLT:

```
Switch_config # cluster commander-address 00e0.0f2b.626e name test_cluster
```

The following command separates the member OLT from the cluster:

```
Switch_config#no cluster commander-address
```

1.1.4 cluster member**Syntax**

cluster member [id *n*] mac-address *H.H.H*

no cluster member id *n*

Parameters

Parameters	Description
<i>n</i>	The number that identifies a cluster member. The range is 1 to 253.
<i>H.H.H</i>	MACaddress of the device.

Default Value

There is no default value.

Command Mode

Global configuration mode

Usage Guidelines:

This command can only be executed on the commander OLT. Add one device to the cluster. To delete one device in the cluster, use the no form of this command. The command cannot be executed repeatedly.

Example

This example shows how to add a switch as member 3 with MAC address 00e0.0f2b.626d and the password key to a cluster.

```
Switch_config#cluster member id 3 mac-address 00e0.0f2b.626d
```

The following example shows how to add a candidate OLT with MAC address 00e0.0f2b.626e to a cluster:

```
Switch_config#cluster member mac-address 00e0.0f2b.626e
```

1.1.5 cluster discovery hop-count

Syntax

cluster discovery hop-count *number*

no cluster discovery hop-count

Parameters

Parameters	Description
<i>number</i>	Number of hops from the cluster edge that the cluster command switch limits the discovery of candidates. Value range: 1~7.

Default Value

The hop count is set to 3.

Command Mode

Global configuration mode

Usage Guidelines:

This command can only be executed on the commander OLT. The cluster command OLT discovers candidates that are max hop from the edge of the cluster. Use the no

form of this command to return to the default setting. The command can be configured repeatedly and the last one is effective.

Example

This example shows how to set hop count limit to 4.

```
Switch_config#cluster discovery hop-count 4
```

1.1.6 cluster discovery mode

Syntax

cluster discovery mode {pdp|lldp}

no cluster discovery mode

Parameters

None

Default Value

PDP

Command Mode

Global configuration mode

Usage Guidelines:

The command is used to select the type of Neighbor Discovery protocol is used in configuring the cluster management. The command can be configured repeatedly and the last one is effective. Both the commander OLT and the member OLT should support the neighbor discovery protocol.

Example

The following example shows how to set the neighbor discovery protocol to LLDP.

```
Switch_config#cluster discovery mode lldp
```

1.1.7 cluster hellotime

Syntax

To set the time interval of hello timer, run the following command:

cluster hellotime *interval*

To return to the default setting, use the no form of this command.

no cluster hellotime

Parameters

Parameters	Description
interval	Duration in seconds of the hello timer. Value range: 1~300.

Default Value

The default time is 8 seconds.

Command Mode

Global configuration mode

Usage Guidelines:

This command can only be executed on the commander OLT. This command is used to set the hellotime. Hellotime of the candidate member cannot be modified. Use the no form of this command to return to the default setting. The command can be configured repeatedly and the last one is effective.

Example

The following example shows how to set hellotime of the cluster to 3 seconds.

```
Switch_config#cluster hellotime 3
```

1.1.8 cluster holdtime

Syntax

cluster holdtime *holdtime***no cluster holdtime**

Parameters

Parameters	Description
interval	Duration in seconds of the hold timer. Value range: 1~300.

Default Value

The default time is 80 seconds.

Command Mode

Global configuration mode

Usage Guidelines:

This command can only be executed on the commander OLT. This command is used to set the hold timer. Holdtime of the candidate member cannot be modified. Use the no form of this command to return to the default setting. The command can be configured repeatedly and the last one is effective.

Example

The following example shows how to set holdtime of the cluster to 30 seconds.

```
Switch_config#cluster holdtime 30
```

1.1.9 cluster management-vlan

Syntax

cluster management-vlan *vid*

no cluster management-vlan

Parameters

Parameters	Description
vid	Cluster management vlan id Value range: 1~4094.

Default Value

The default vlan id is 1.

Command Mode

Global configuration mode

Usage Guidelines

The command is used to configure cluster management vlan id. Use the no form of this command to return to the default setting. When the device does not enable the cluster

function, the command can be configured repeatedly and the last one takes effect. Otherwise, the command cannot configure.

Example

The following example shows how to set the management vlan id of the cluster to 100 seconds.

```
Switch_config#cluster management-vlan 100
```

1.1.10 show cluster

Syntax

show cluster

Parameters

None

Default Value

None

Command Mode

Other modes except the user mode

Usage Guidelines

This command shows basic configuration information of the cluster feature. If this device is not among the cluster, the system will output error information; if this device is command OLT, the system will display cluster name, total number of members, inaccessible number of members, backup group information, timer information and address pool; if the device is member, the system will display cluster member number, communication status and other information.

Example

The display of the command OLT is as follows:

```
switch_A#show cluster
Commander of cluster "zmz"
Total number of members:      2
Hello timer                   8
Hold timer                    80
Topologic discovery hops      3
Address pool net address      192.166.0.0
```

Address pool address mask 255.255.0.0
 Member 1(mac 00e0.0f2b.626d) is up, hold time 76.780 second

The display of the cluster member is as follows:

switch_B#show cluster

Member 1 of cluster "zmz"

Total number of members:	2
Hello timer	8
Hold timer	80
Topologic discovery hops	3
Address pool net address	192.166.0.0
Address pool address mask	255.255.0.0

Commander mac 00e0.0f2b.6000 is up, hold time 79.880 second

When there is inaccessible member, the display of the command OLT is as follows:

switch_A#show cluster

Commander of cluster "zmz"

Total number of members:	2
Hello timer	8
Hold timer	80
Topologic discovery hops	3
Address pool net address	192.166.0.0
Address pool address mask	255.255.0.0

Member 1(mac 00e0.0f2b.626d) is down

When there is inaccessible OLT, the display of the command OLT is as follows:

switch_B#show cluster

Member 1 of cluster "zmz"

Total number of members:	2
Hello timer	8
Hold timer	80
Topologic discovery hops	3
Address pool net address	192.166.0.0
Address pool address mask	255.255.0.0

Commander mac 00e0.0f2b.6000 is down

When configured cluster backup group, the display of the command OLT is as follows:

cmdr_config#show cluster

Commander of cluster "zmz"

Total number of members:	3
Redundancy:	Enabled
Standby type:	hsrp
Standby Group:	mytest
Standby Group Number:	1
Hello timer	8
Hold timer	80
Topologic discovery hops	3
Address pool net address	192.166.0.0

Address pool address mask 255.255.0.0
 Member 1(mac 00e0.0f50.806c) is up, hold time 76.750 second
 Member 2(mac 00e0.0f2b.626d) is up, hold time 76.750 second

When configured cluster backup group, the display of the backup command OLT is as follows:

```

backup_config#show cluster
Member 2(Standby command switch) of cluster "zmz"
    Total number of members:          3
    Hello timer                     8
    Hold timer                       80
    Topologic discovery hops         3
    Address pool net address         192.166.0.0
    Address pool address mask        255.255.0.0
    Commander mac 00e0.0f2b.6000 is up, hold time 74.210 second
  
```

1.1.11 show cluster candidate

Syntax

show cluster candidates [detail | mac-address *H.H.H*]

Parameters

Parameters	Description
detail	Displays the detailed information of all candidate members.
mac-address <i>H.H.H</i>	Displays candidate member information of the specified mac address.

Default Value

None

Command Mode

Other modes except the user mode

Usage Guidelines:

This command is used to display candidate member information in the cluster. The displayable information include: member mac address, device name, up-link device, interface and so on. This command can only be executed on the command OLT.

Example

The example of command execution:

```
switch_A#show cluster candidates
```

```
ID MAC addr      Name    Device Type
```

```
256 00e0.0f2b.626d switch_B switch Local interface: g0/2(2), Uplink interface: g0/2(2), Uplink  
device id: 0 ,hops to edge: 1
```

The example of command execution when the MAC address is specified:

```
switch_A#show cluster candidates mac-address 00e0.0f2b.626d
```

```
Device 'switch_B' with mac address number 00e0.0f2b.626d
```

```
Device type:      switch
```

```
Upstream MAC address: 00e0.0f2b.6000 (Cluster Member 0)
```

```
Local port:      g0/2    FEC number:
```

```
Upstream port:   g0/2    FEC Number:
```

```
Hops from cluster edge: 1
```

The example of command execution when detail is specified:

```
switch_A#show cluster candidates detail
```

```
Device 'switch_B' with mac address number 00e0.0f2b.626d
```

```
Device type:      switch
```

```
Upstream MAC address: 00e0.0f2b.6000 (Cluster Member 0)
```

```
Local port:      g0/2    FEC number:
```

```
Upstream port:   g0/2    FEC Number:
```

```
Hops from cluster edge: 1
```

1.1.12 show cluster member

Syntax

To show the information of members in the cluster, run the following command:

```
show cluster member [id n | detail]
```

Parameters

Parameters	Description
detail	Displays member's detailed information.
<i>n</i>	Displays member of the specified number.

Default Value

None

Command Mode

Other modes except the user mode

Usage Guidelines:

This command is used to display member information in the cluster. The displayable information include: member MAC address, device name, up-link device, interface and so on. This command can only be executed on the command OLT.

Example

The example of command execution:

```
switch_A#show cluster member
ID MAC addr      Name    Device Type
0 00e0.0f2b.6000 switch_A switch
Device is commander
-----
1 00e0.0f2b.626d switch_B SWITCH
Local interface: g0/2(2), Uplink interface: g0/2(2), Uplink device id: 0 ,hops to cmdr: 1
-----
```

The example of command execution when member number is specified:

```
switch_A#show cluster member id 1
Device 'switch_B' with member number 1
    Device type:          SWITCH
    MAC address:          00e0.0f2b.626d
    Upstream MAC address: 00e0.0f2b.6000 (Cluster Member 0)
    Local port:           g0/2    FEC number:
    Upstream port:        g0/2    FEC Number:
    Hops from command device: 1
```

The example of command execution when detail is specified:

```
switch_A#show cluster member detail
Device 'switch_A' with member number 0 (Command Switch)
    Device type:          SWITCH
    MAC address:          00e0.0f2b.6000
    Upstream MAC address:
    Local port:           FEC number:
    Upstream port:        FEC Number:
    Hops from command device: 0
Device 'switch_B' with member number 1
    Device type:          SWITCH
    MAC address:          00e0.0f2b.626d
    Upstream MAC address: 00e0.0f2b.6000 (Cluster Member 0)
    Local port:           g0/2    FEC number:
    Upstream port:        g0/2    FEC Number:
    Hops from command device: 1
```

1.1.13 show cluster topo

Syntax

show cluster topo

Parameters

None

Default Value

None

Command Mode

Other modes except the user mode

Usage Guidelines:

This command is used to display topology information in the cluster. The displayable information include: member MAC address, device name, up-link device, interface and so on. This command can only be executed on the command OLT.

Example

The example of command execution:

```
cmdr#show cluster topo
```

```
Total device number discovered in session: 4
```

```
Total link number discovered in session: 3
```

```
-----  
ID MAC addr      Name      Device Type
```

```
256 00e0.0f28.006c sw3 SWITCH
```

```
Local interface: g0/2(2), Uplink interface: g12/2(18), Uplink device id: 0, hops to edge: 1
```

```
-----  
0 00e0.0f2b.601b cmdr SWITCH
```

```
Device is commander
```

```
-----  
1 00e0.0f50.8000 sw2 SWITCH
```

```
Local interface: g0/1(1), Uplink interface: g6/2(6), Uplink device id: 0, hops to cmdr: 1
```

```
-----
```


1.1.14 show cluster address-pool

Syntax

show cluster address-pool

Parameters

None

Default Value

None

Usage Guidelines:

The command is used to show cluster address pool. This command can only be executed on the command OLT.

Command Mode

Other modes except the user mode

Example

The example of command execution:

```
Switch_config# show cluster address-pool
  Address pool net address      192.166.0.0
  Address pool address mask    255.255.0.0
```